

DRAFT

NATIONAL WETLANDS INVENTORY

NOTES TO USERS

EASTERN OREGON AND WESTERN IDAHO

1:100,000 SCALE MAPS COVERED

**BAKER NE, BAKER SE, BAKER NW, BAKER SW
GRANGEVILLE NE, GRANGEVILLE SE, GRANGEVILLE NW
CANYON CITY NE, CANYON CITY SE, CANYON CITY NW, CANYON CITY SW**

A. INTRODUCTION

The U.S. Fish & Wildlife Service's National Wetlands Inventory is producing maps showing the location and classification of wetlands and deepwater habitats of the United States. The Classification of Wetlands and Deepwater Habitats of the United States by Cowardin et al. is the classification system used to define and classify the wetlands. Photo interpretation conventions, hydric soils lists and wetland plant lists are also available to enhance the use and application of the classification system.

B. PURPOSE

The purpose of the notes to users is threefold: (1) to provide localized information regarding the production of NWI maps, including specific imagery and interpretation discussion; (2) to provide a descriptive crosswalk from wetland codes on the map to common names and representative plant species; and (3) to explain local geography, climate, and wetland communities.

C. STUDY AREA

Geography:

The project area is located in eastern Oregon and western Idaho and encompasses eleven (11) 1:100,000 scale maps. The Grangeville and Baker maps are predominantly located along the north-south orientation of the Snake River. The Canyon City maps lie west of the Bakers covering large portions of the Malheur, Umatilla, and Ochoco National Forests (see Figure 1).

According to Bailey (1980), the ecoregions within the eastern Oregon and western Idaho map areas extend as follows: The Rocky Mountain Forest Province lies throughout approximately seventy-seven percent (77%) of the eleven 1:100,000 maps; Grand Fir-Douglas-Fir Forest is the represented section. The Intermountain Sagebrush Province covers approximately twenty percent (20%) of the map area including almost all of the Baker SW, the western two-thirds of Baker SE, and small portions of Baker NE and Canyon City SE; Sagebrush-Wheatgrass is the represented section. The remaining three percent (3%) is split between the Columbia Forest Province, where small eastern portions of Grangeville NE and Grangeville SE are in the Cedar-Hemlock-Douglas-Fir Forest Section; and the Palouse Grassland Province, where small portions of the Canyon City NW and Grangeville NE fall. Elevations reach 8,000 feet to 9,000 feet in some of the higher mountains such as Twin Mountain (8,928 feet), Elkhorn Peak (8,920 feet), Slide Mountain (8,570 feet), and Snowbank Mountain (8,322 feet). Local relief is between 3,000 feet and 7,000 feet.

Vegetation:

In the Highland Provinces, vegetation cover is determined by a combination of altitude, direction of prevailing winds, and slope exposure. Forest communities are coniferous and predominantly Douglas Fir, Western Red Cedar, Western Hemlock, Grand Fir, Silver Fir, Ponderosa Pine, and Lodgepole Pine. Deciduous trees such as cottonwoods and willows are limited to streams and back water areas of reservoirs.

In the Intermountain Sagebrush Province, vegetation consists primarily of sagebrush. Other important alkali tolerant plants in this area are shadescale, fourwing saltbush, rubber rabbitbush, spiny hopsage, and horsebrush. Greasewood or saltgrass appear in areas where salt concentration is very high. At higher elevations juniper shrubs are widely interspersed throughout the sagebrush communities. Although sagebrush is the characteristic plant in some areas, grasses of palouse or mixed prairie grasses become dominant.

Climate:

The study area is influenced by a semi-arid continental climate in which evaporation usually exceeds precipitation. Winters are cold and dry with summers warm to hot. Maximum rainfall in the Steppe Division comes in the summer, however, total moisture supply is low. The highland provinces are also influenced by a semi-arid steppe regime, however, latitude, elevations, and the general north-south orientation of mountain ranges determine localized differences within this area. Influenced by prevailing west winds, eastern slopes are usually much drier than those with western exposures. In areas of east-west ridge formation, the northern slopes are found to be more wet than those facing south. Overall precipitation averages are 5 to 23 inches annually with average annual temperature of 35° F to 55° F. Wider fluctuations are experienced in mountainous areas where precipitation on some slopes may total 40 inches annually.

Soils:

In the semiarid steppe division, the principle soil formation process is calcification, with salinization occurring on poorly drained sites. Generally soils on the steppe are found to have a large excess of precipitated calcium carbonate and are very rich in bases. In the steppe division Mollisols are the dominant soil type. Humus content is found to be very low because the vegetation is so sparse. Soils in forested mountain areas are more leached due to higher precipitation and tend to be more acidic. The great majority of soils found within the study area were formed in volcanic ash mixed with volcanic tuff, loess and basalt. These soils range from shallow to moderately deep and are usually well drained.

Poorly drained, alkali soils such as Stanfield Silt Loam, Umapine Silt Loam, and soils from the Catherine series which are slightly alkali dominated Baker Valley. In Long Valley, surrounding the Cascade Reservoir, Blackwell Clay Loam and other poorly drained soils are found. In both these valleys mass drainage projects via ditching have greatly changed the areas.

D. WETLAND CLASSIFICATION CODES AND WATER REGIME DESCRIPTIONS

Table 1: NWI Classification for Eastern Cascades and Southeast Oregon

NWI CODE WATER REGIME	NWI DESCRIPTION	COMMON DESCRIPTION	CHARACTERISTIC VEGETATION
R3UB (H)	Riverine, upper perennial, unconsolidated bottom	Rivers	Unconsolidated bottoms
R3RB (H)	Riverine, upper perennial, rock bottom	Rivers	Rock bottoms
R3AB (H)	Riverine, upper perennial, aquatic bed	Vegetated river	<u>Ranunculus aquatilis</u> (white water buttercup)
R2UB (H)	Riverine, lower perennial, unconsolidated bottom	Rivers	Unconsolidated bottoms
R3US (C,A)	Riverine, upper perennial, unconsolidated shore	Riverbanks	Unconsolidated shore
R3RS (C,A)	Riverine, upper perennial, rock shore	Riverbanks	Rock shore
R4SB (F,C,A)	Riverine, intermittent, stream bed	Creeks, streams, canals	Unvegetated, sand, mud, and gravel
L1UB (H)	Lacustrine, limnetic, unconsolidated bottom	Lakes	Unconsolidated bottoms
L2US (C,A)	Lacustrine, littoral, unconsolidated shore	Lake shores, reservoir draw-down	Unconsolidated shore

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NWI CODE WATER REGIME	NWI DESCRIPTION	COMMON DESCRIPTION	CHARACTERISTIC VEGETATION
PUB (H,F)	Palustrine, unconsolidated bottom	Ponds, stock ponds, borrow pits, sewage tanks	Unconsolidated bottom
PUS (C,A)	Palustrine, unconsolidated shore	Pond beds, unvegetated depressions	Unvegetated mud, sand, or gravel
PAB (H,F)	Palustrine,aquatic bed	Ponds, stock ponds	<u>Nuphar</u> <u>polysepalum</u> (yellow water lily) <u>Potamogeton</u> sp. (pondweed) <u>Lemna</u> sp. (duckweed)
PEM (H,F,C,B,A)	Palustrine,persistent emergents	Seeps, springs, vegetated streams and canals,wet meadows, marshes	<u>Juncus</u> spp. (rushes) <u>Carex</u> spp. (sedges) <u>Scirpus</u> spp. (bullrush) <u>Eleocharis</u> spp. (spikerush) <u>Rumex</u> spp. (dock) <u>Hordeum</u> spp. (barley) <u>Typha</u> sp. (cattail) <u>Epilobium</u> sp. (willow herb) <u>Equisetum</u> spp. (horse tail) <u>Beckmannia syzigachne</u> (slough grass)

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NWI CODE WATER REGIME	NWI DESCRIPTION	COMMON DESCRIPTION	CHARACTERISTIC VEGETATION
PEM (Cont'd) (H,F,C,B,A)			<u>Distichlis</u> sp. (saltgrass) <u>Aster</u> spp. <u>Crypsis</u> sp. (timothy)
PSS (F,C,B,A)	Palustrine,scrub-shrub	Seeps, springs, vegetated streams, thickets	<u>Salix</u> spp. (willow) <u>Vaccinium</u> spp. (blueberry) <u>Alnus</u> sp. (alder) <u>Crataegus douglasii</u> (douglas hawthorn) <u>Cornus stolonifera</u> (red osier dogwood) <u>Betula purnila</u> (bog birch)
PFO (C,B,A)	Palustrine,forested	Forested streams, floodplains, depressions, seeps,and springs	<u>Pinus contorta</u> (lodgepole pine) <u>Thuja plicata</u> (western red cedar) <u>Tsuga</u> sp. (hemlock) <u>Acer circinatum</u> (vine maple) <u>Populus</u> sp. (cottonwood) <u>Alnus rubra</u> (red alder)

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Table 1: NWI Classification for Eastern Cascades and Southeast Oregon

NWI CODE WATER REGIME	NWI DESCRIPTION	COMMON DESCRIPTION	CHARACTERISTIC VEGETATION
			<u>Abies grandis</u> (grand fir)
			<u>Populus tremuloides</u> (quaking aspen)
			<u>Picea engelmannii</u> (Englemann spruce)
			<u>Betula sp.</u> (river birch)
			<u>Sorbus scopulina</u> mountain ash
			<u>Cornus stolonifera</u> red osier dogwood

E. WATER REGIME DESCRIPTION

- (A) Temporarily Flooded - Surface water is present for brief periods during the growing season, but the water table usually lies well below the soil surface. Plants that grow both in uplands and wetlands are characteristic of this water regime.
- (B) Saturated - The substrate is saturated to the surface for extended periods during the growing season, but surface water is seldom present.
- (C) Seasonally Flooded - Surface water is present for extended periods especially early in the growing season, but is absent by the end of the growing season in most years. The water table after flooding ceases is extremely variable, extending from saturated to a water table well below ground surface.
- (F) Semipermanently Flooded - Surface water persists throughout the growing season in most years. When surface water is absent, the water table is usually at or very near the land's surface.
- (H) Permanently Flooded - Water covers the land surface throughout the year in all years.
- (K) Artificially Flooded - The amount and duration of flooding is controlled by means of pumps or siphons in combination with dikes or dams.

F. MAP PREPARATION:

The wetland classifications that appear on the Baker NE, Baker SE, Baker NW, Baker SW; Grangeville NE, Grangeville SE, Grangeville NW; and the Canyon City NE, Canyon City SE, Canyon City NW, and Canyon City SW National Wetlands Inventory (NWI) Base Maps are in accordance with Cowardin et al (1977). The delineations were produced through stereoscopic interpretation of 1:58,000 scale color infrared photographs. The photography dates are as follows:

<u>Date</u>	<u>% Coverage</u>
06/81	8.5%
07/81	82.4%
08/81	8.8%
09/81	.3%

Field checksites were selected to clarify varying signatures found on the photography. These photographic signatures were then identified in the field using vegetation types and soil types, as well as additional input from field personnel.

Collateral data included USGS topographic quadrangles, SCS soil surveys, vegetation, climate, and ecoregional information.

The user of the map is cautioned that, due to the limitations of mapping primarily through aerial photointerpretation, a small percentage of wetlands may have gone unidentified. Since the photography was taken during a particular time and season, there may be discrepancies between the map and current field conditions. Changes in landscape which occurred after the photography was taken would result in such discrepancies.

Aerial photo interpretation and drafting were completed by Geonex Martel, Inc., St. Petersburg, Florida.

G. SPECIAL MAPPING PROBLEMS

None

H. MAP ACQUISITION

To discuss any questions concerning these maps or to place a map order, please contact:

Dennis Peters
Regional Wetland Coordinator
U.S. Fish and Wildlife Service - Region I
1002 N.E. Holladay Street
Portland, OR 97232-4181

To order maps only, contact:

National Cartographic Information Center
U.S. Geological Survey
507 National Center
Reston, VA 22092

1-800-USA-MAPS

Maps are identified by the name of the corresponding USGS 1:24,000 scale topographic quadrangle name. Topographic map indices are available from the U.S. Geological Survey.

I. COLLATERAL DATA

Bailey, Robert G., 1980. Description of the Ecoregions of the United States. U.S. Department of Agriculture, Washington, D.C.

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Kozloff, Eugene N., 1988. Plants and Animals of the Pacific Northwest. University of Washington Press.

Little, Elbert L., 1980. Audubon Field Guide to North American Trees: Western Region. Alfred A. Knopf, Inc., N.Y.

Reed, Porter P. Jr., 1988. National List of Plant Species That Occur In Wetlands: Northwest (Region 9). U.S. Fish and Wildlife Service, Department of Interior, Washington, D.C.

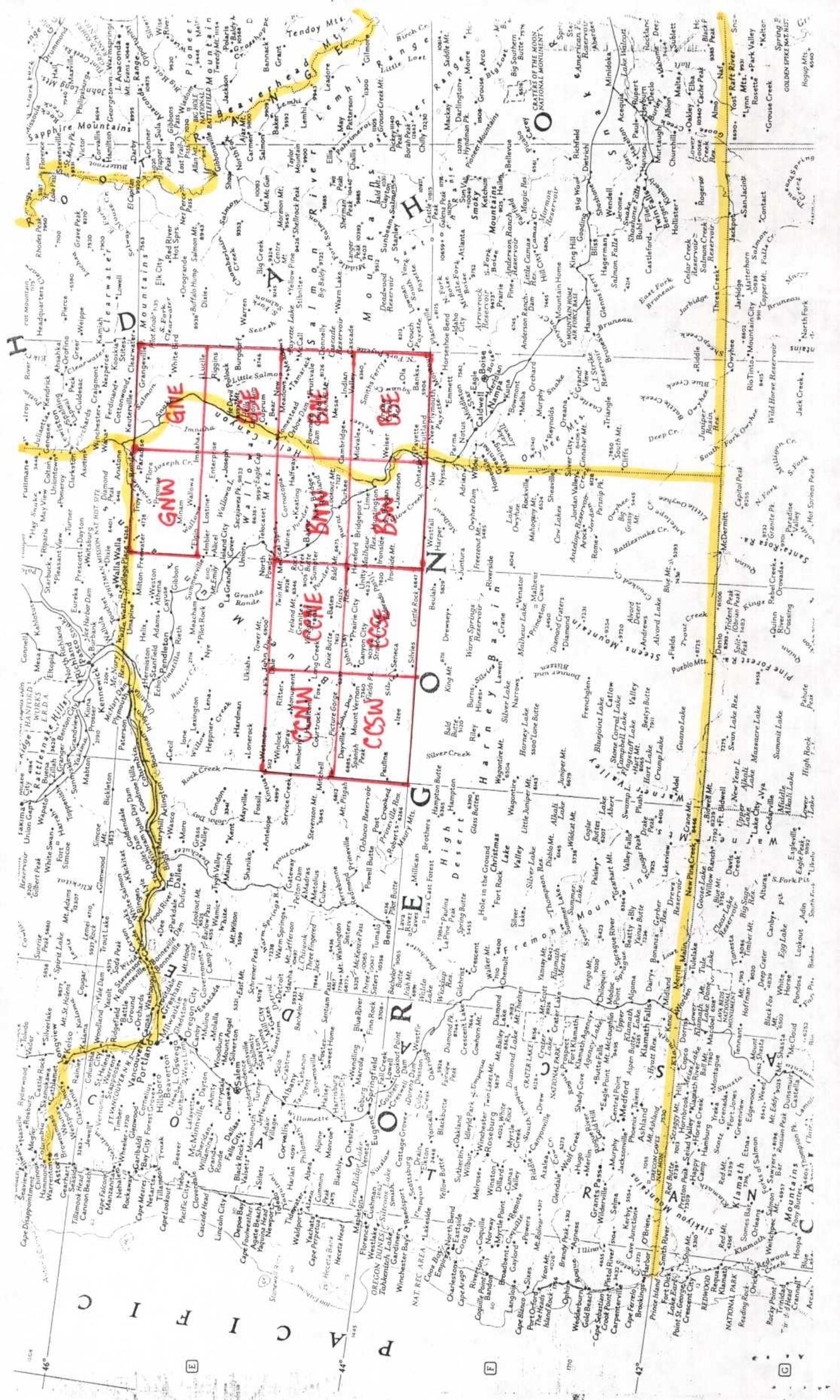
Spellenberg, Richard, 1979. The Audubon Field Guide To North American Wildflowers - Western Region. Alfred A. Knopf, Inc., N.Y.

Weinmann, Fred et al., 1984. Wetland Plants of the Pacific Northwest. U.S. Army Corps of Engineers, Seattle, WA

U.S. Geological Survey Quadrangles

Soil Surveys for Valley, Baker, Grant, Idaho, Union, Payette, Gem, and Malheur Counties.

APPENDIX A



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